

Paper reference 31761H
Pearson BTEC Level 3
Nationals Certificate, Extended
Certificate, Foundation Diploma,
Diploma, Extended Diploma

Information Technology

UNIT 2: Creating Systems to Manage Information

(Part A)

Tuesday 9 May 2023 – Afternoon

Time: 3 hours

Q70533A

YOU MUST HAVE

activity2.rtf

activity3.rtf

activity4.rtf

YOU WILL BE GIVEN

Data Book.

INSTRUCTIONS

- **Part A and Part B** contain the material for the completion of the assessment under supervised conditions.
- There are 40 marks for **Part A** and 26 marks for **Part B**, giving a total mark for the assessment of 66.
- **Part A and Part B** are specific to each series and this material must be issued only to learners who have been entered to take the assessment in the specified series.
- Learners **MUST ONLY** have access to **Part A** during this examination session.

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INSTRUCTIONS continued

- This booklet should be kept securely until the start of the 3 – hour supervised assessment period.
- **Part B** materials **MUST NOT** be accessed during completion of **Part A**.
- **Part A** and **Part B** should be submitted together for each learner.
- This booklet should not be returned to Pearson.
- Answer **ALL** activities.

INFORMATION

- The total mark for this paper is 40.
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INSTRUCTIONS TO INVIGILATORS

This paper must be read in conjunction with the unit information in the specification and the BTEC Nationals Instructions for Conducting External Assessments (ICEA) document.

See the Pearson website for details.

Refer carefully to the instructions in this task booklet and the BTEC Nationals Instructions for Conducting External Assessments (ICEA) document to ensure that the assessment is supervised correctly.

The 3 – hour Part A activities must be carried out under examination conditions.

Electronic templates for Activities 2, 3 and 4 are available on the website for centres to download for candidate use.

Learners must complete Part A on a computer using the templates provided and appropriate software. All work must be saved as PDF documents for submission.

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INSTRUCTIONS TO INVIGILATORS continued

Invigilators may clarify the wording that appears in Part A but cannot provide any guidance in completion of the activities.

Invigilators should note that they are responsible for maintaining security and for reporting issues to Pearson.

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INSTRUCTIONS TO INVIGILATORS continued

MAINTAINING SECURITY

- **Learners must not bring anything into the examination environment or take anything out.**
- **Centres are responsible for putting in place appropriate checks to ensure that only permitted material is introduced into the examination environment.**
- **Internet access IS NOT permitted.**
- **Learners' work must be regularly backed up. Learners should save their work to their folder using the naming instructions indicated in each activity.**
- **During any permitted break, and at the end of the examination, materials must be kept securely, and no items removed from the supervised environment.**
- **Learners can only access their work under supervision.**
- **User areas must only be accessible during the examination session and only by the individual learners.**

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INSTRUCTIONS TO INVIGILATORS continued

- Any materials being used by learners must be collected in at the end of the examination.
- Following completion of **Part A** all materials must be retained securely for submission to Pearson.
- **Part B** materials must not be accessed during the completion of **Part A**.

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INSTRUCTIONS TO INVIGILATORS continued**OUTCOMES FOR SUBMISSION**

Each learner must create a folder to submit their work.

The folder should be named according to this naming convention:

**[Centre #]_[Registration number #]_
[surname]_[first letter of first name]_PartA**

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345_F180542_Smith_J_PartA

Each learner will need to submit 6 PDF documents AND their final database within their folder.

The 6 PDF documents should use these file names:

ACTIVITY 1:

**activity1_[Registration number #]_
[surname]_[first letter of first name]**

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INSTRUCTIONS TO INVIGILATORS continued**ACTIVITY 2:**

**activity2_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 3:

**activity3_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 3d:

**activity3d_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 4:

**activity4_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 5:

**activity5_[Registration number #]_
[surname]_[first letter of first name]**

INSTRUCTIONS FOR LEARNERS

Read the scenario, brief and activities information carefully.

Plan your time carefully to allow for the preparation and completion of all the activities.

Internet access is NOT allowed.

You will complete the activities under supervision and your work will be kept securely at all times.

You must work independently throughout the examination and must not share your work with other learners.

Your invigilator may clarify the wording that appears in Part A but cannot provide any guidance in completion of the activities.

Part B materials MUST NOT be accessed during the completion of Part A.

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INSTRUCTIONS FOR LEARNERS continued

OUTCOMES FOR SUBMISSION

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INSTRUCTIONS FOR LEARNERS continued

ACTIVITY 2:

**activity2_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 3:

**activity3_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 3d:

**activity3d_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 4:

**activity4_[Registration number #]_
[surname]_[first letter of first name]**

ACTIVITY 5:

**activity5_[Registration number #]_
[surname]_[first letter of first name]**

Part A Set Task Brief

You are advised to spend 10 minutes reading the Scenario and the activities you are to complete.

You may make notes and/or highlight information to use in the completion of the documents you need to produce for your activities.

SCENARIO

You have been asked to create a database for Heather Burn Caravan Park.

The database will record information about the sales of static caravans on the park.

A static caravan is a caravan that stays permanently on the park.

Each caravan is built by a manufacturer.

Each manufacturer builds its own models.

Each caravan is a model.

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SCENARIO continued

Each model has a range of features. For example, the number of bedrooms and whether it has double glazing.

The minimum number of bedrooms is one and the maximum number of bedrooms is three.

When a caravan is sold the advertised sale price and actual sale price are recorded.

Look at **Figure 1** in the separate Data Book.

Figure 1 is an extract of the data the company would like to record.

Part A Set Task

You must complete ALL activities within Part A.

Produce your documents using a computer.

Save your documents in your folder ready for submission using the formats and naming conventions indicated.

ACTIVITY 1: DATABASE RELATIONSHIPS

SCREENPRINT – You are advised to spend 45 minutes on this activity.

Study the data extract provided in Figure 1.

Create an efficient database structure that:

- **minimises data duplication**
- **accepts the data provided**
- **uses recognised naming conventions**
- **ensures data integrity.**

Ensure you use ALL and ONLY the fields shown in Figure 1.

Screen print your database relationships.

Save your database relationships screenprint as a PDF in your folder for submission as

**activity1_[Registration number #]_
[surname]_[first letter of first name]**

(Total for Activity 1 = 8 marks)

ACTIVITY 2: TABLE STRUCTURES AND VALIDATION

– You are advised to spend 45 minutes on this activity.

Create efficient table structures based on Activity 1 and the data shown in Figure 1.

The table structures must use suitable validation to meet these requirements:

- **a record for a new manufacturer will not save if the manufacturer ID is not in the correct format**
- **a record for a new manufacturer will not save if the manufacturer name is not present**
- **a record for a new model will not save if the manufacturer ID is not present**
- **a record for a new model will not save if the manufacturer ID is invalid**
- **a record will not save if the number of bedrooms is below the accepted range**
- **a record will not save if the number of bedrooms is above the accepted range.**

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ACTIVITY 2 continued

Input the data given in Figure 1 into your relational database.

Evidence your table structures and validation as screenprints using the given activity2.rtf template.

Display your screenprints to show:

- **the design view of each table showing the structure, including the fields and data types**
- **validation including one suitable example for each of these:**
 - **presence check**
 - **length check**
 - **value lookup OR range check**
 - **table lookup**
 - **format check.**

Save your evidence of the table structures as a PDF in your folder for submission as
activity2_[Registration number #]_
[surname]_[first letter of first name]

(Total for Activity 2 = 8 marks)

ACTIVITY 3: QUERIES AND REPORT – You are advised to spend 40 minutes on this activity.

QUERIES

(a) Create a query to display a sorted list of models that have no more than two bedrooms and have double glazing. It must display only the manufacturer name, the model name, and the number of bedrooms from highest to lowest.

(b) Each caravan sale is given a rating.

If the actual sale price is more than £500 below the advertised sale price then the rating is Poor, otherwise the rating is Good.

Create a query to display the rating for caravan sales where there is a difference between the advertised sale price and the actual sale price.

Calculate:

- the difference between the advertised sale price and the actual sale price**
- the rating.**

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ACTIVITY 3 (b) continued

Display:

- the caravan ID
- the advertised sale price
- the actual sale price
- the difference between the advertised sale price and the actual sale price
- the rating.

Evidence your queries as screenprints using the given `activity3.rtf` template.

Your screenprints must show:

- the **DESIGN** view of the queries specified that you have created, including fields and criteria
- the **DATASHEET** view of the queries specified that you have created.

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ACTIVITY 3 continued

REPORT

(c) Create a report that shows a list of models.

For each manufacturer, calculate:

- **the total number of models**
- **the total number of models that have double glazing.**

Display:

- **a suitable report title**
- **the manufacturer name**
- **the model name**
- **the number of people the model sleeps**
- **the number of bedrooms**
- **whether the model has double glazing or not**
- **the total number of models for each manufacturer**
- **the total number of models that have double glazing.**

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ACTIVITY 3 (c) continued

The report must fit on one page.

Evidence your report as screenprints using the given `activity3.rtf` template.

Your screenprints must show:

- **the `DESIGN` view of the report you have created, including grouping and calculations**
- **the `DESIGN` view of any queries you have created and used with the report, including fields and criteria**
- **the `DATASHEET` view of any queries you have created and used with the report.**

**Save your query and report evidence as a PDF in your folder for submission as
`activity3_[Registration number #]_
[surname]_[first letter of first name]`**

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ACTIVITY 3 continued

- (d) Save your database report (not a screenprint) as a PDF in your folder for submission as activity3d_[Registration number #]_[surname]_[first letter of first name]**

(Total for Activity 3 = 12 marks)

ACTIVITY 4: STRUCTURE TESTING – You are advised to spend 20 minutes on this activity.

Test the structure and the validation of your relational database using suitable test data (normal, erroneous and extreme as appropriate).

You must provide evidence of table level testing that proves:

- 1. a record for a new manufacturer will not save if the manufacturer ID is not in the correct format**
- 2. a record for a new manufacturer will not save if the manufacturer name is not present**
- 3. a record for a new model will not save if the manufacturer ID is not present**
- 4. a record for a new model will not save if the manufacturer ID is invalid**
- 5. a record will not save if the number of bedrooms is below the accepted range**
- 6. a record will not save if the number of bedrooms is above the accepted range.**

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ACTIVITY 4 continued

Complete the test log to show how you have tested the structure and validation of your database using the given `activity4.rtf` template.

Save your test log as a PDF in your folder for submission as

**activity4_[Registration number #]_
[surname]_[first letter of first name]**

(Total for Activity 4 = 6 marks)

ACTIVITY 5: STRUCTURE EVALUATION – You are advised to spend 20 minutes on this activity.

Evaluate your database structure and validation.

You should consider:

- **how well your database structure has minimised data duplication**
- **how well your database structure meets these requirements:**
 - **each caravan is built by a manufacturer**
 - **each manufacturer builds its own models**
 - **each caravan is a model**
 - **each model has a range of features. For example, the number of bedrooms and whether it has double glazing**
 - **the minimum number of bedrooms is one and the maximum number of bedrooms is three**
 - **when a caravan is sold the advertised sale price and actual sale price are recorded.**

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ACTIVITY 5 continued

Save your evaluation as a PDF in your folder for submission as

**activity5_[Registration number #]_
[surname]_[first letter of first name]**

(Total for Activity 5 = 6 marks)

TOTAL FOR PART A = 40 MARKS

END OF PAPER
